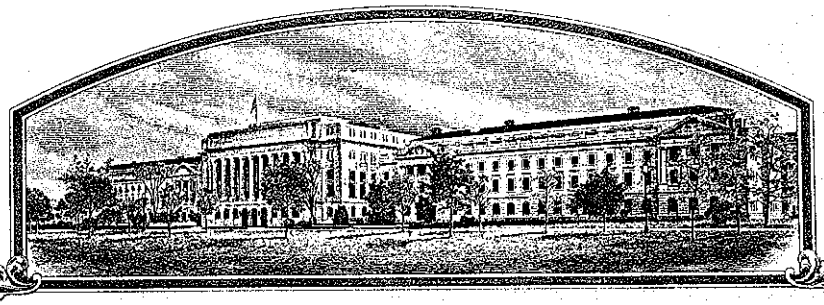

No. 7800092

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

National Seed Development Organization, Ltd.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF seventeen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RED FESCUE

'Merlin'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 5th *day of* June *in the year of our Lord one thousand nine hundred and* eighty.

PLANT VARIETY PROTECTION OFFICE U.S. DEPARTMENT OF AGRICULTURE

Attest:

Commissioner
Plant Variety Protection Office
Grain Division

FORM GR-470
(12-15-72)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY
MERLIN.	FESTUCA RUBRA (RED FESCUE)	PV NUMBER 7800092
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 7-25-78 / TIME 11:30 A.M. P.M.
FESTUCA RUBRA	GRAMINEAE.	FEE RECEIVED $250.00 / $250.00 / $250.00
	5. DATE OF DETERMINATION 1972.	BALANCE DUE $7-25-78 / $7-25-78 / $ 5/19/80

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
NATIONAL SEED DEVELOPMENT ORGANISATION, LTD.	NEWTON HALL, NEWTON, CAMBRIDGE, ENGLAND.	CAMBRIDGE 871167

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
STATE SPONSORED	LIMITED COMPANY	MARCH 1967

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

As in 6 and 7.

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [x] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- To follow:
  - [ ] 13B. Exhibit B, Botanical Description of the Variety
  - [ ] 13C. Exhibit C, Objective Description of the Variety
- [x] 13D. Exhibit D, Data Indicative of Novelty
- [ ] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [x] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [x] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [ ] FOUNDATION [ ] REGISTERED [x] CERTIFIED

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

April. 20th. 1978
(DATE)

W.M. Scott
(SIGNATURE OF APPLICANT)

NATIONAL SEED DEVELOPMENT ORGANISATION LTD.
Newton Hall
Newton
CAMBRIDGE Tel Cambridge 871167

(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

7800092

EXHIBIT A ORIGIN AND BREEDING HISTORY 'Merlin' Festuca rubra

Origin - The source material was collected from the area of a disused lead/zinc mine (Trelogan mine) in Wales U.K.

Breeding History - The breeding programme commenced in the mid-late 1960's

Selection and Multiplication

Breeding method - original plant material was selected from natural populations growing on lead/zinc mine tailings

the breeding programme involved polycross and further selection for type (heading date and uniformity)

second generation seed from clonal material is stored for further multiplication

Variants - 'Merlin' has been tested in Breeders' trials and in National list trials and has shown to be stable for the following characters :

height and width in year of sowing ; erectness of growth and leaves in year of sowing ; early spring plant height ; days to ear emergence ; length and width of flag leaf at ear emergence ; stem height at ear emergence ; % of plants heading in aftermath

'Merlin' has been evaluated from two sowings of different seed stocks over two different harvest years and has been found not to differ at the 1% level of significance when compared in the same year and trial for the above characters.

7800092

Exhibit B Botanical Description MERLIN red fescue

Festuca rubra : 2n=6x=42

Origin : source material collected

Spring growth : Early

Heading Date : 1 week after S59 red fescue (an early variety)

Persistence : excellent

Winter Greeness : very good

1000 Seed weight : 1.2958g

Morphological characteristics

Growth habit - fairly prostrate, producing short rhizomes which can assist in the stabilization of loose sandy material

Leaves - narrow, dark green and glossy - useful as amenity grass

Note - (fuller description given in Exhibit C)

Stress Tolerance

heavy metals - Merlin can grow on mine tailings contaminated with levels of lead and zinc which are lethal to other vegetation.

frost tolerance - good

drought tolerance - good

fertility - Merlin can grow in areas of inherent low fertility where lolium species for example do not thrive.

AH/PMF
July 17th, 1978

FORM GR-470-37
(3-76)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF VARIETY
FESCUE
(Festuca spp.)

NAME OF APPLICANT(S)
NATIONAL SEED DEVELOPMENT ORGANISATION

VARIETY NAME OR TEMPORARY DESIGNATION
MERLIN

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)
NEWTON HALL
NEWTON
CAMBRIDGE, U.K.

FOR OFFICIAL USE ONLY
PVPO NUMBER
7800092

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Royal Horticultural Society or any recognized color fan may be used to determine plant colors; designate system used: _____. Describe location of test area U.K. (ENGLAND, SCOTLAND, WALES. N. IRELAND + REGIONS U.S.
All questions need not be answered, however, completeness should be striven for in order to establish the most adequate Variety Identification.

1. SPECIES: (With comparison varieties for use below - use varieties within species of application variety)

[ ]
1 = F. ARUNDINACEA (TALL) 11 = ALTA 12 = FAWN 13 = GOAR 14 = KENTUCKY 31
2 = F. PRATENSIS (MEADOW) 21 = ENSIGN 22 = TRADER
3 = F. RUBRA SSP. COMMUTATA (CHEWINGS) 31 = CASCADE 32 = HIGHLIGHT 33 = JAMESTOWN
4 = F. RUBRA SSP. RUBRA (RED) 41 = BOREAL 42 = PENNLAWN 43 = DAWSON
5 = F. OVINA VAR. OVINA (SHEEP)
6 = F. LONGIFOLIA (HARD) 61 = DURAR 62 = BILJART (C-26) 63 = SCALDIS
7 = OTHER (SPECIFY) F. rubra ssp rubra variety S59

2. CYTOLOGY

[4][2] 2n CHROMOSOME NUMBER

3. ADAPTATION: (0 = Not Tested; 1 = Not Adapted; 2 = Adapted)

[2] NORTHEAST [0] SOUTHEAST [0] NORTH CENTRAL [0] PACIFIC N.W. [0] OTHER (SPECIFY) _____

4. MATURITY: (50% Headed) Give Test Area _____

[ ][ ] DAYS EARLIER THAN . . . . . [ ][ ]
MATURITY SAME AS . . . . . [ ][ ] COMPARISON VARIETY
[0][8] DAYS LATER THAN . . . . . [0][7]

5. PLANT HEIGHT: (At maturity to top of panicle)

[4][0][0] mm HEIGHT
[8][0] mm SHORTER THAN . . . . . [0][7]
HEIGHT SAME AS . . . . . [ ][ ] COMPARISON VARIETY
[ ][ ] mm TALLER THAN . . . . . [ ][ ]

6. GROWTH HABIT (Mature)

[2] 1 = ERECT (KENTUCKY 31) 2 = SEMI-ERECT (HIGHLIGHT) 3 = PROSTRATE

7. RHIZOMES

[3][0] mm LENGTH [ ][ ] mm WIDTH

[1] 0 = ABSENT 1 = WEAKLY CREEPING (DAWSON) 2 = STRONGLY CREEPING (BOREAL) 3 = OTHER _____

8. LEAF BLADE:

[4] COLOR: 1 = LIGHT GREEN (GOLFROOD) 2 = MODERATELY LIGHT GREEN (HIGHLIGHT) 3 = MEDIUM GREEN (JAMESTOWN, KENTUCKY 31)
4 = DARK GREEN (CASCADE) 5 = BLUEGREEN 6 = GRAYGREEN 7 = OTHER (SPECIFY) _____

7800092

8. LEAF BLADE:

[0] ANTHOCYANIN: 0 = ABSENT 1 = PRESENT [0] HAIRS (BASAL): 0 = ABSENT 1 = PRESENT [1] MARGINS: 1 = SMOOTH 2 = SEMI-ROUGH 3 = ROUGH

[ ][ ][ ] mm LENGTH (FIRST LEAF BELOW FLAG LEAF) [ ][ ] mm WIDTH

[1][0] mm SHORTER THAN . . . . [07] [05] mm NARROWER THAN [07]

LENGTH SAME AS . . . . . [ ][ ] COMPARISON VARIETY WIDTH SAME AS . . [ ][ ] COMPARISON VARIETY

[ ][ ] mm LONGER THAN . . . . [ ][ ] [ ][ ] mm WIDER THAN . . [ ][ ]

9. LEAF SHEATH (Plant Base):

[2] COLOR: 1 = WHITE (HIGHLIGHT) 2 = RED [0] AURICLE HAIRINESS: 0 = ABSENT 1 = PRESENT

10. PANICLE (Mature plant)

[9][0] NUMBER OF PANICLES PER PLANT (FIRST YEAR OF PRODUCTION - FALL OR SPRING PLANTING SPECIFY SPRING

[4][0][0] mm LENGTH [ ][ ][ ] GRAMS OF SEED PER PANICLE

[ ][ ] mm SHORTER THAN . . . [ ][ ] [ ][ ] GRAMS LESS SEED THAN [ ][ ]

LENGTH SAME AS . . . [07] COMPARISON VARIETY WEIGHT SAME AS . . [ ][ ] COMPARISON VARIETY

[ ][ ] mm LONGER THAN . . . [ ][ ] [ ][ ] GRAMS MORE SEED THAN [ ][ ]

[ ] SHAPE: 1 = NARROW-TAPERING 2 = EGG SHAPE 3 = OBLONG 4 = OTHER (SPECIFY) _____

[ ] TYPE: 1 = OPEN 2 = INTERMEDIATE 3 = COMPACT

[ ] HABIT: 1 = ERECT 2 = NODDING

[ ] BRANCHES: 1 = SMOOTH 2 = ROUGH

[ ] COLOR (At 50% flowering): 1 = YELLOWISH GREEN 2 = GREEN 3 = BLUISH GREEN 4 = PURPLISH 5 = REDDISH 6 = OTHER (SPECIFY) _____

11. PALEA:

[ ] HAIRS (ON KEELS): 0 = ABSENT 1 = SHORT (OLDS) 2 = LONG (RAINIER)

12. LEMMA:

[ ] HAIRS: 0 = ABSENT 1 = PRESENT [ ] TEXTURE: 1 = SMOOTH 2 = ROUGH

[ ][ ] mm LEMMA LENGTH [ ][ ] mm LEMMA WIDTH

[ ][ ] mm SHORTER THAN . . . . [ ][ ] [ ][ ] mm NARROWER THAN [ ][ ]

LENGTH SAME AS . . . . [ ][ ] COMPARISON VARIETY WIDTH SAME AS . . . [ ][ ] COMPARISON VARIETY

[ ][ ] mm LONGER THAN . . . . [ ][ ] [ ][ ] mm WIDER THAN. . . [ ][ ]

[ ] AWNS: 0 = ABSENT 1 = PRESENT

[ ][ ] mm AWN LENGTH

7800092

12. LEMMA:

mm SHORTER THAN . . . .

LENGTH SAME AS . . . . } COMPARISON VARIETY

mm LONGER THAN . . . .

13. SEED:

mm LENGTH

mm WIDTH

mm SHORTER THAN . . .

LENGTH SAME AS . . . } COMPARISON VARIETY

mm LONGER THAN . . .

mm. NARROWER THAN

WIDTH SAME AS . . } COMPARISON VARIETY

mm WIDER THAN . .

Exhibit B. 99 M

1296 GRAMS PER 1000 SEED

GRAMS LESS THAN .

WEIGHT SAME AS . . } COMPARISON VARIETY

GRAMS MORE THAN .

14. DISEASE, INSECT, AND NEMATODE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

0 HELMINTHOSPORIUM VAGANS	0 H. SOROKINIANUM	0 H. DICTYOIDES
0 RHIZOCTONIA SOLANI	2 ERYSIPHE GRAMINIS	0 USTILAGO STRIIFORMIS
0 FUSARIUM NIVALE	0 F. ROSEUM	0 TYPHULA IOTANA
0 PUCCINIA GRAMINIS	0 P. STRIIFORMIS	0 P. POAE-NEMORALIS
0 P. CORONATA	0 PYTHIUM ULTIMUM	0 CORTICIUM FUSCIFORME
0 SCLEROTINIA HOMEOCARPA	0 INSECT _____	0 NEMATODE _____
0 OTHER _____	OTHER _____	OTHER _____

15. GIVE VARIETY OR VARIETIES THAT MOST CLOSELY RESEMBLE THE APPLICATION VARIETY. For the following characteristics indicate degree of resemblance (D.R.) by placing in the column marked, D.R., one of the following numbers:

1 = Application variety is less than comparison variety **2 = Same as**

3 = More than, better, greater, darker, more disease resistant, etc.

CHARACTER	VARIETY	D.R.	CHARACTER	VARIETY	D. R.
RHIZOME LENGTH			GROWTH HABIT		
LEAF WIDTH			LEAF COLOR	S59	3
PANICLE COLOR			PANICLE SHAPE		
WINTER COLOR	S59	3	COLD INJURY		
SHADE TOLERANCE			HEAT	S59	3
DROUGHT	S59	3	DISEASE*		

*Specify each disease evaluated.

NSDO

NATIONAL SEED DEVELOPMENT ORGANISATION LTD
Newton Hall
Newton
CAMBRIDGE
Telephone Cambridge 871167
Telex 81577
Telegrams Nasdo Cambridge

October 11th, 1978

WME/PMF

Dear Mr. Higgins,

Red fescue No. 7800092 'Merlin'

In response to your August letter concerning our application for the variety Merlin, I am listing below comments on the questions you raise.

1. Polycross and selections : The variety is based on tolerant ecotypes. Parent plants were selected which were tolerant to the metals lead (Pb) and zinc (zn) at a level of 30,000 parts in a million in soil. This test included measurement of production of root growth.

2. All plants were collected from the Trelogan mining area

3. No named varieties were employed in the selection which was finalised in 1972.

4. Selections for tolerance were made from the parental material.

5. The variety is propogated by seed multiplication.

6. No significant variants were found.

7. I think we should have added to the statement in the penultimate paragraph of your letter 'so far as is known to us'. Material tested in the selection work e.g. the variety Aberystwyth S59 red fescue for example and subsequently in field trials other cultivars of ryegrass, etc. were not tolerant of the levels of lead and zinc which have been indicated. In the absense of claims being made for other cultivars we have assumed this to be the position.

We are enclosing an additional statement under Exhibit D.

With regard to Merlin under eligibility for protection we would comment as follows

Merlin has achieved the National List of varieties in the United Kingdom but protection is being applied for (Plant Breeders' Rights) in 1978. Merlin has also been entered for trial in some other countries variety lists but has not yet achieved protection.

We hope this is the information you require.

Yours sincerely,

W.M. Evans

Mr. Joseph J. Higgins,
United States Department of Agriculture,
Beltsville,
Maryland. 20705.

EXHIBIT D

Data Indicative of Novelty

(Additional statement)

Merlin is a hexaploid slender creeping red fescue having few and slender rhizomes. It is classified in this category with varieties such as Pennlawn, Dawson and S59.

Merlin heads about 8 days later than the variety Aberystwyth S59 in the Cambridge area. The single plants of Merlin are less tall than those of S59 and other comparisons are indicated in the objective description so far as they are known.

Merlin will grow in the presence of 1% lead (Pb) and 1% zinc (zn) with adequate fertilizer which S59 is not able to tolerate Varieties of other species e.g. Lolium, Agrostis and Canadian red fescue have not yet been able to withstand such high levels of phyto-toxic heavy metals in field trials.

Glasshouse experiments have shown Merlin to be more drought-tolerant than S59 and a number of other red fescue varieties.

Data indicative of Novelty

(Further additional statement)

Merlin is a hexaploid slender creeping red fescue classified under the Medium late heading group along with Illahee and Noro. (Classification of Festuca rubra cultivars - Sports Turf Research Institute, Bingley - Sports Turf Bulletin April - June 1976)

Merlin has a 7 day difference in heading date when compared with Noro (Merlin 46.23 : Noro 39.38) ref : Comparison of Merlin with some control varieties using 11 characters (1976 data supplied by K. Pearson) - enclosed.

Merlin also differs from Noro and other varieties on this list in the other characters listed

Merlin may be distinguished from Illahee by 2 particular characters (data enclosed - ref. STRI Annual Report 1976 and 1977)

1) Height - Merlin is classified as SMALL - Illahee as MEDIUM SMALL

height	(Dec - Early Feb.)	Merlin 3	Illahee 4 (0-9 scale - 9 max. height)
"	(late Feb. - Apr)	Merlin 1	Illahee 7 (0-9 scale - 9 max height)

2) Green colour	(winter)	Merlin 7	Illahee 5 (0-9 scale - 9 darkest green)
	(spring)	Merlin 4	Illahee 8

EXHIBIT D DATA INDICATIVE OF NOVELTY 'Merlin' Festuca rubra

'Merlin' red fescue is a unique cultivar in that it is tolerant of levels of lead and zinc which are lethal to all other cultivars listed in the EEC common catalogue (including the U.K. National list).

In addition, as far as it can be ascertained, there is no commercial variety in existence with the specific characteristics listed below.

Provided fertilizer is supplied to correct any nutrient deficiencies :

(i) 'Merlin can grow on mine tailings containing 1% lead

(ii) 'Merlin' can grow on mine tailings containing 1% zinc

PV 7800092

COMPARISON OF MERLIN WITH SOME CONTROL VARIETIES USING 11 CHARACTERS (1976 Data)

Variety	Character Number										
	1	2	3	4	5	6	7	8	9	10	11
Merlin		46.23	39.88	14.41	20.26	5.75	10.24	1.93	36.13	9.86	3.06
Grampian	42	47.44	42.47	16.57	23.69	5.86	9.46	1.58	30.79	9.79	3.31
S59	42	39.53	40.89	19.04	22.72	6.15	13.28	1.98	36.22	14.83	3.60
Noro		39.38	41.93	11.08	14.88	6.60	8.87	1.40	29.88	6.68	2.52
Pennlawn	42	38.95	43.50	20.30	25.33	5.97	14.13	2.13	31.42	16.73	4.16
Moncorde	56	38.87	33.50	13.35	26.08	7.08	15.37	2.26	29.77	14.75	4.41
Cumberland Marsh		38.47	35.28	11.64	18.74	6.66	11.58	1.36	30.71	8.91	2.39
Dawson	42	35.39	41.20	18.62	23.92	6.26	15.33	1.58	36.91	12.62	2.99
Polar		34.40	41.75	16.57	23.28	6.24	11.61	1.60	34.22	11.78	2.88
Golfrood		34.10	33.50	10.42	20.63	7.30	9.81	1.46	29.18	9.01	2.61
Oasis	42	33.35	46.50	19.02	21.28	6.75	11.87	1.69	35.78	10.27	2.72
LSD 5%		2.69	3.50	2.97	2.47	0.45	1.67	0.19	3.53	2.97	0.33
LSD 2%		3.21	4.17	3.54	2.94	0.54	1.99	0.23	4.21	3.54	0.39
LSD 1%		3.56	4.62	3.93	3.26	0.60	2.21	0.25	4.67	3.93	0.43

LIST OF CHARACTERS

1. Chromosome Number (2n=)
2. Date of ear emergence - mean number of days after 1st April
3. Angle of growth at ear emergence
4. Height of plant at ear emergence (cm)
5. Width of plant at ear emergence (cm)
6. Length of lemma (mm)
7. Length of inflorescence (cm)
8. Leaf width (mm)
9. Regrowth height (cm)
10. Length of flagleaf (cm)
11. Width of flagleaf (mm)

7800692

EXHIBIT E 'MERLIN' Festuca rubra

Basis of Applicant's ownership

This is to certify that the red fescue cultivar 'Merlin' is owned jointly by Professor A.D. Bradshaw of Liverpool University and the National Seed Development Organisation Limited, Newton Hall, Newton, Cambridge.

Date 4.5.1978 Signed .....

W.M. Evans
(Crop Variety Development Executive)